

Bridges and Barriers to Working in K-8 Low-Income Schools
School Needs Assessment: Focused on Nutrition and Physical Activity
2007



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Executive Summary

The School Needs Assessment (SNA) project was developed to determine the barriers and bridges to working in low-income schools and methods to make these efforts more successful and sustainable in educating students and their parents/guardians resulting in healthy eating and physically active lifestyles. Strategies were broken into four categories: nutrition education, physical education, school nutrition environment, and physical activity. An online survey was conducted with representatives from low-income K-8 schools around Michigan, and four focus groups were conducted with school administrators, Michigan Model Coordinators, and Michigan State University Extension staff members. The findings from this initial study support current collaborative efforts from the Michigan Department of Community Health, Michigan Department of Education, and Michigan State University Extension including a high school needs assessment which will be completed in the 2007-2008 fiscal year.

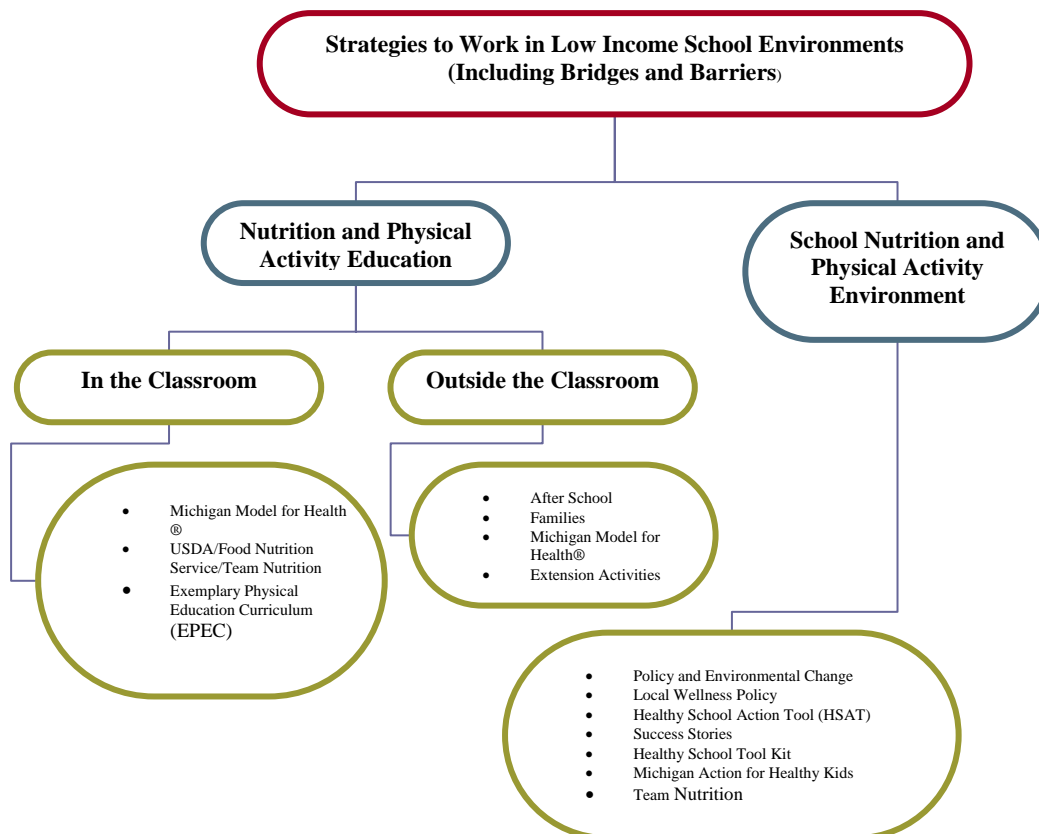
- ❖ **3 out of 4** respondents feel their schools have too little nutrition education, too little physical education, and too little physical activity.
- ❖ **1 in 3** respondents want to see nutrition education in after school programs, **1 in 2** respondents want to see physical education in after school programs, and **1 in 2** respondents want to see more physical activity in after school programs.
 - Many 21st Century Community Learning Center programs have created innovative and successful ways of integrating nutrition education, physical education, and physical activity into after school programs. Read more about what works in these programs at: outreach.msu.edu/cerc/21cclc.asp.
- ❖ **1 out of 7** schools offer family nutrition education programs yet **3 out of 4** respondents feel family programs would work best for nutrition education.
 - MSU Extension offers family programs and family bookbags: web1.msue.msu.edu/msue/cyf/family.
- ❖ **3%** of schools have a connection with a farm for fruits and vegetables yet **45%** of respondents feel this is an important way to improve the nutrition environment.
 - Traverse City West High School in Traverse City, Michigan introduced new products from local farmers such as an apple/chicken/walnut salad and cherry smoothies. It's been a huge hit! Read the full story at: mihealthtools.org/schoolsuccess/default.asp?tab=readstories&storyid=136.
- ❖ Respondents worry that physical education and nutrition education will never be a priority in schools unless it is tested on the required MEAP.
 - There are health grade level content expectations that were approved by the Michigan Board of Education on February 13, 2007. www.michigan.gov/mde/0,1607,7-140-28753_38684_29233---,00.html
 - There are physical education and nutrition education programs that directly correlate to the new health and physical education grade level content expectations.
Michigan Mode for Health: www.emc.cmich.edu/mm/default.htm
Michigan Team Nutrition: www.tn.fcs.msue.msu.edu
EPEC ®: www.michiganfitness.org

- The Michigan Department of Community Health and Michigan Department of Education are working together to explore a new health component to the optional MEAP in 2007-08.
- ❖ **1 in 2** respondents feel that lack of funding precludes a better nutrition environment. For example, it is cheaper for food services to purchase prepackaged foods with limited nutritional values than to buy fresh fruits, low fat options, etc.
 - Longfellow Middle School in Flint, Michigan moved to no fries and no pizza one day/week. The sales from children purchasing chicken sandwiches, yogurt, and salads is increasing, proving to the food service director that she made more money on no fries/pizza days. Read the full story at:
mihealthtools.org/schoolsuccess/default.asp?tab=readstories&storyid=7

This report can be accessed at: www.tn.fcs.msue.msu.edu/resources.html
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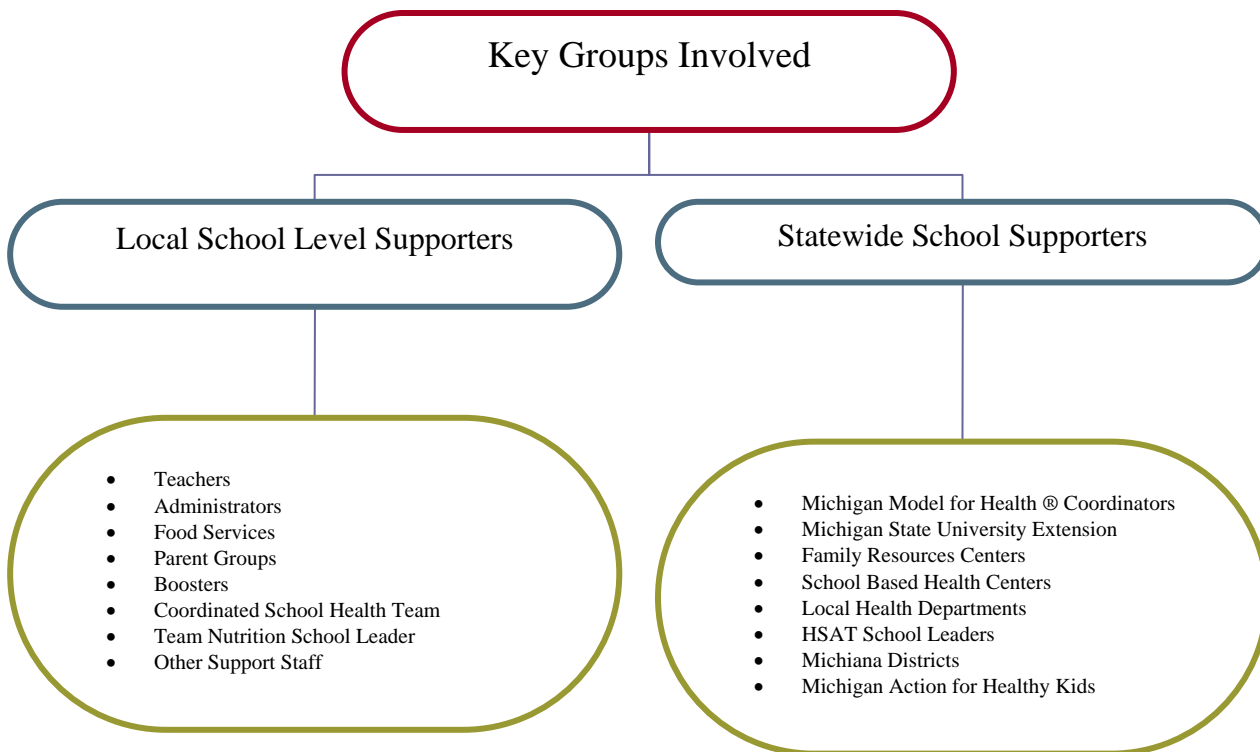
Background

The School Needs Assessment (SNA) project was developed to determine the barriers and bridges to working in low-income schools and methods to make these efforts more successful and sustainable in educating students and their parents/guardians resulting in healthy eating and physically active lifestyles. Strategies were broken into four categories: nutrition education, physical education, school nutrition environment, and physical activity.



The key partners involved in this project were the Michigan Department of Community Health, Michigan Department of Education, and Michigan State University Extension. This project was made possible through partial funding from the USDA's Food Stamp Program. Key

groups involved in the implementation of the project, specifically data gathering, included those in the following figure.



Literature Review

The social context in which children's eating patterns develop becomes important because the eating behavior of people in that environment serves as a model for the developing child (Birch & Fisher, 1998). Healthy eating and regular physical exercise help young people to perform better at school, feel good, and avoid developing risk factors which may lead to major chronic diseases and premature death. To combat this, a relevant education in nutrition, physical activity, and health is a key element to promoting lifelong healthy eating and exercise behaviors (Perez-Rodrigo et al., 2001). The localities where these changes to nutrition education and physical activity can most readily occur, besides the home, are schools.

Schools have a great influence on the development of lifelong eating and physical activity patterns (Haire-Joshu & Nanney, 2002). The social environment of children diversifies during school age and extra-familial influences progressively become more important references. During this time, children are becoming more independent, start making their own food choices, and begin to make personal decisions regarding what they eat (Perez-Rodrigo & Aranceta, 2003). Schools have been the setting for population-based interventions that have successfully focused on changing eating and/or physical activity patterns in large groups of children through (1) integration of food service training and nutrition education, (2) training of staff, (3) coordinated classroom curriculum and instruction, and (4) family involvement through group meetings and participatory homework activities (Haire-Joshu & Nanney, 2002). Some examples of this would be: the 5-a-Day programs with their emphasis on a daily intake of five fruits and vegetables to improve overall health; the Southwest Cardiovascular Curriculum Project that showed that culturally appropriate school-based programs can help promote behavior changes; including increased physical activity and increased nutrition awareness, that will lead to healthy lifestyles; the Child and Adolescent Trial for Cardiovascular Health where interventions such as school food service modifications, enhanced physical education, and classroom health curricula were able to improve eating and physical activity behaviors in school age children; and the Cardiovascular Health in Children Trial where classroom intervention and risk-based intervention were used with school age children with cardiovascular disease to show a marked improvement in overall health (Davis, Lambert, Gomez, & Skipper, 1995; Harrell et al., 1998; Havas et al., 1995; Luepker et al., 1996).

A crucial step in the design of a school health program is careful understanding of practitioner barriers to the implementation of physical education programs (Barroso, McCullum-

Gomez, Hoelscher, Kelder, & Murray, 2005). There are indications that significant barriers exist, such as large class size, low priority related to other academic subjects, inadequate indoor/outdoor facilities, and inadequate financial resources, in providing adequate quality physical education, an important element in a coordinated school health program. This is because of the lack of a priority that physical education has become for teachers, school administrators, school districts, parents, and caregivers (Barroso, McCullum-Gomez, Hoelscher, Kelder, & Murray, 2005).

Children's eating is modified by exposure and accessibility of foods; by modeling behavior of peers, siblings, and parents; by the physiological consequences of ingestion; and by child-feeding practices. In particular, children's liking for and consumption of foods high in energy, sugar, and fat may be enhanced by environments where those foods are present, consumed by peers or family members, and made unavailable periodically (Birch & Fisher, 1998). It is of vital importance to assess the current status of nutrition, physical activity, and support structures which are already in place (Perez-Rodrigo et al., 2001). In order to facilitate practical approaches as well as to introduce an element of empowerment, self-assessment tools should be produced. These tools should be designed to guide changes and also to include an element of continuous assessment of change, which can be used for evaluation purposes (Perez-Rodrigo et al., 2001). This assessment should be used as a baseline for the initial well being of the school and should be combined with a system for monitoring change as well as a consensus report regarding implications for health and recommendations for action (Perez-Rodrigo et al., 2001). The message should be addressed in a way that children can understand and should teach the skills and knowledge required to improve or strengthen healthy eating habits (Perez-Rodrigo & Aranceta, 2003).

Project Design

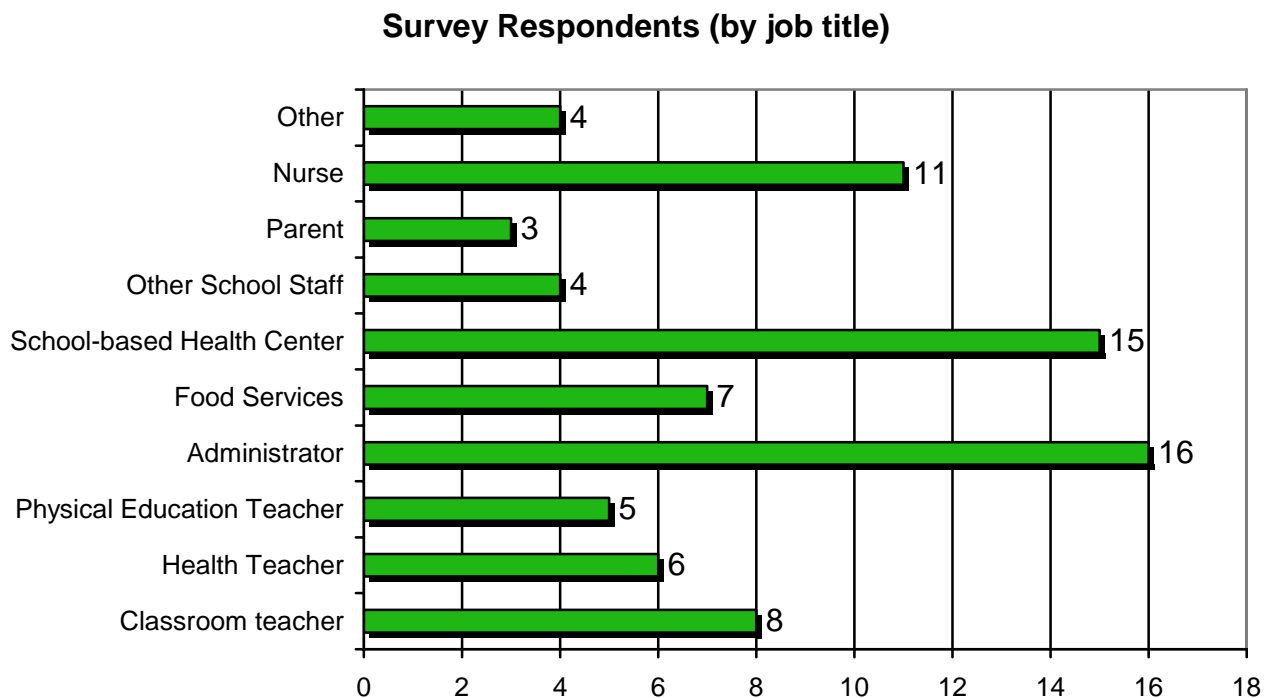
The project focused on data gathered from low-income K-8 schools (i.e., free/reduced lunch 50% or greater) but ensured that schools already part of multi-state Michigan Model evaluation were not included. There are 1,203 low-income schools and 794 schools were eligible for participation. The schools involved in this study were selected using the snowball effect. Qualifying schools that have relationships with Michigan Model coordinators, Michigan State University Extension staff, and Family Resource Center staff were invited to participate, then any other qualifying schools with personal connections were invited to participate. Efforts were made to ensure the schools participating were representative of Michigan, both geographically and demographically.

The survey developed by the SNA team was provided through the online service Survey Monkey. Emails were sent out by SNA team members to various groups to encourage them to either complete the survey themselves or share the survey URL with teachers at low-income buildings they work with throughout the state. The groups the email was sent to included: Michigan Model coordinators, local health departments, school-based health centers, Team Nutrition schools, MSU Extension staff, parent-teacher organizations/associations, Family Resource Centers, Michigan Action for Healthy Kids coalition members, School Nutrition Association, and HSAT schools. The survey was available online for 6 weeks.

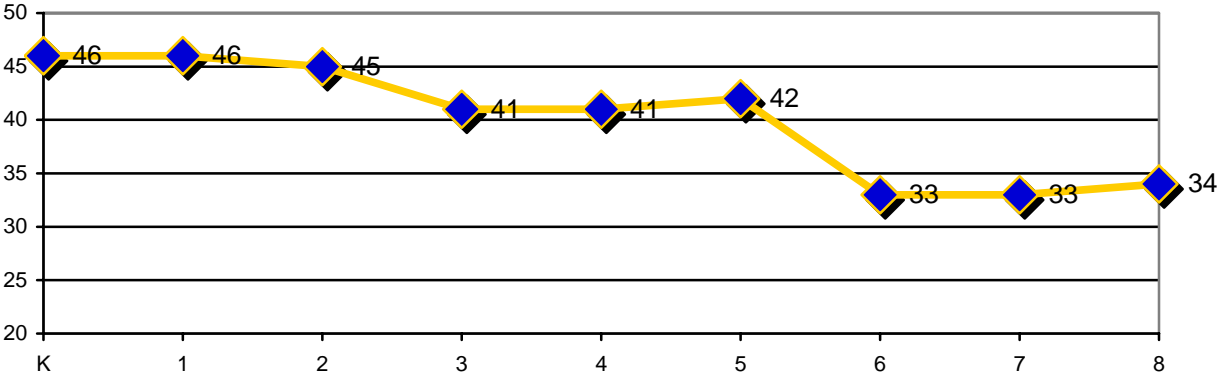
During the survey window, 194 people started the survey. Of those, 163 surveys were viable (e.g., answered questions beyond the first three background questions). Of the 163 completed surveys, 69 were from people representing low-income elementary or middle schools (the target group for this project). Therefore, 36% of all of the surveys were used in the analysis, or 42% of the viable surveys.

Simultaneous to the survey, four focus groups were conducted: ten elementary school administrators, nine middle school administrators, eight Michigan Model coordinators, and eight Michigan State University Extension staff members. The focus groups gathered similar information as the online survey but focused more on descriptive details about bridges and barriers to implementing the four core areas. While hindsight is 20/20, it probably would have been more effective if the SNA team had conducted the online survey first then used those results to delve into more explanations at the focus groups.

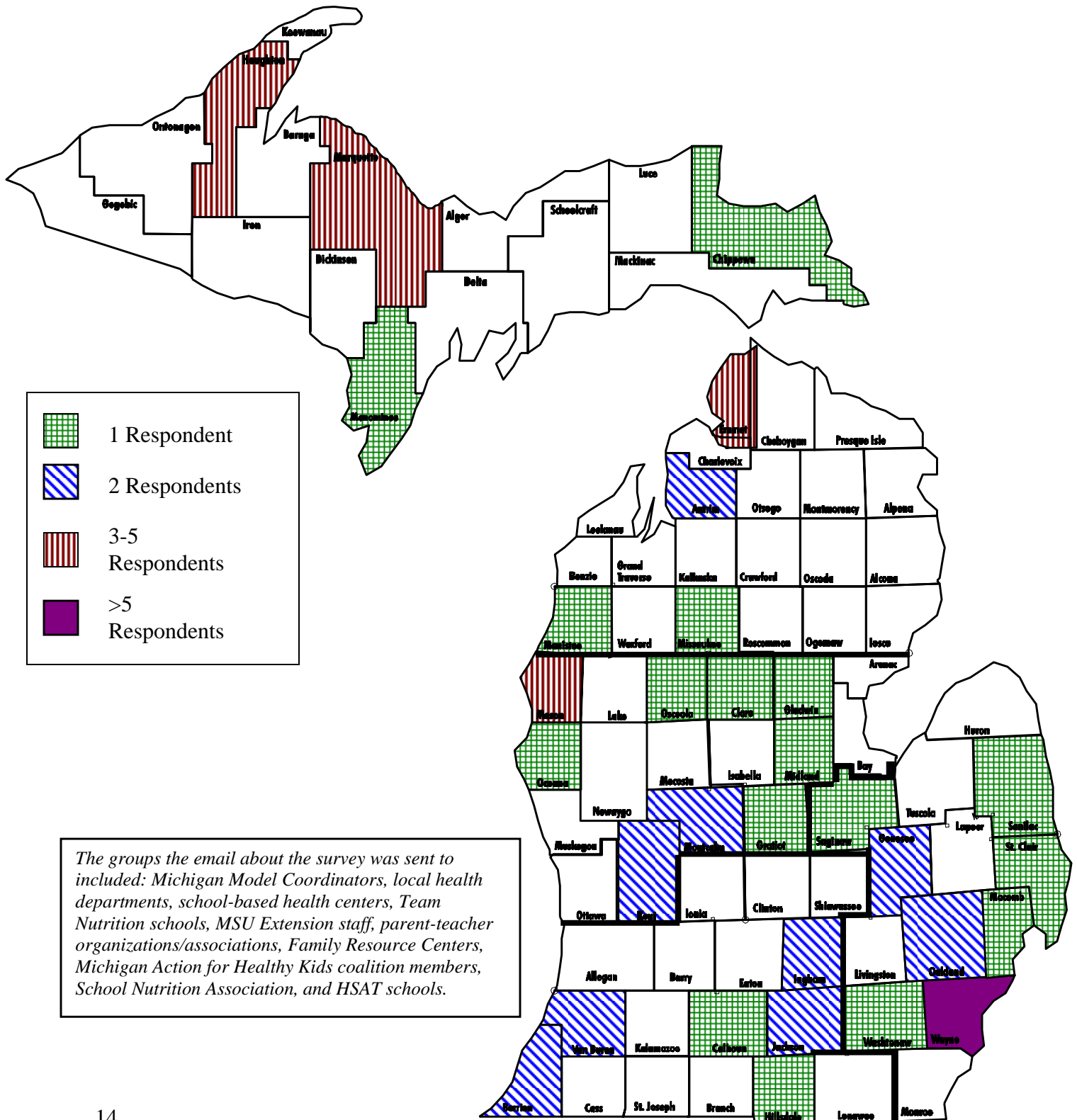
Demographic Data



Survey Respondents (by grades served)



Respondents by County



Results

Nutrition Education

Nutrition education is ideally provided through planned, sequential, K-12 curricula that addresses the physical, mental, emotional, and social dimensions of nutrition to allow students to develop and demonstrate increasingly sophisticated nutrition-related knowledge, attitudes, skills, and practices in the better use of available food choices that will last a lifetime.

In your opinion, do the students in your school receive:

- 74% - Too little nutrition education
- 26% - The right amount of nutrition education

Some of the ways you've seen nutrition education integrated into your school includes:

- 59% - Implementing the school wellness policy
- 49% - A nutrition module taught within a comprehensive health curriculum
- 48% - Partnering with outside organizations/individuals providing nutrition education
- 36% - Food service staff providing nutrition education
- 20% - Teachers receiving professional development on nutrition education
- 19% - Before or after school programs which include nutrition education
- 14% - Summer programs which include nutrition education
- 14% - Family programs which include nutrition education

Other:

- classes eating together while the teacher discusses nutrition
- teaching nutrition during PE with real world perspectives like energy in – energy out

Respondents feel family programs and teacher professional development could have a lot of impact, yet they are the ways nutrition education is being implemented the least.

Some of the ways you think would work best in introducing or expanding nutrition education in your school includes:

- 72% - Family programs which include nutrition education
- 67% - Teachers receiving professional development on nutrition education
- 55% - Partnering with outside organizations/individuals providing nutrition education
- 51% - A nutrition module taught within a comprehensive health curriculum
- 45% - Food service staff providing nutrition education
- 43% - Implementing the school wellness policy
- 33% - Before or after school programs which include nutrition education
- 23% - Summer programs which include nutrition education

Other:

- incorporate materials into core curriculum classes since these classes are the main emphasis
- involve students in planning ways to incorporate
- have highly qualified health teachers with a strict health-focused assignment and own classroom
- make health class longer than a 10 week unit

Focus group comment:
They (parents) should be promoting good health and good choices at home as well as good exercise choices at home.
Should be.
~principal

- involve school nurses
- don't remove nutrition education to allow for more MEAP prep time
- create nutrition grade level content expectations (GLCEs)
- involve food service

What barriers do you see to more fully integrating nutrition education into the schools in which you currently work?

- 84% - Time within the school day to cover nutrition
- 67% - Lack of funding
- 48% - Lack of planning time/interest
- 36% - No one is really enforcing our school wellness policy
- 36% - More training is needed to teach nutrition
- 33% - It is not a priority at our school
- 32% - Lack of materials
- 4% - Lack of substitute teachers

Other:

- school wellness policy is too vague to be enforced
- food service doesn't have enough time or staff to implement nutrition education
- poor nutrition & lack of physical activity is going to become a huge burden on our society but the legislature hasn't made it a priority yet
- low graduation priority for PE and health
- African American cultural expectations with food habits
- getting parents involved
- MEAP is always the priority – add health to the MEAP

While finding more time in the school day isn't an easy solution, some respondents had creative ideas like including health on the MEAP, creating nutrition GLCEs, and incorporating nutrition into core curriculum

The schools believe they are already covering nutrition education adequately and they don't need an outside source coming in to teach nutrition.
~MSUE educator

Physical Education

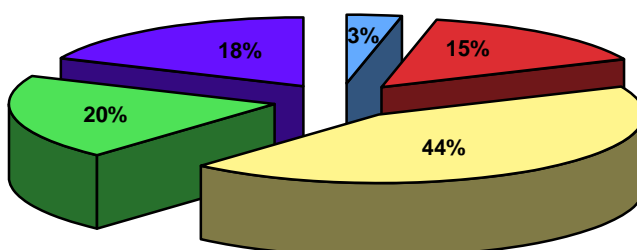
Physical education programs teach developmentally and sequentially appropriate skills and knowledge and confidence needed to establish and sustain an active lifestyle in a safe, supportive environment. Physical education teachers evaluate student knowledge, motor and social skills, and provide feedback for student improvement.

In your opinion, do the students in your school receive:

- 70% - Too little physical education
- 30% - The right amount of physical education

To your knowledge, the students in your school receive an average of how many minutes for physical education each week?

Amount of Physical Education



Some of the ways you've seen physical education integrated into your school includes:

- 68% - Hiring of a physical education teachers
- 61% - A physical education curriculum
- 46% - Before or after school programs which include physical education
- 38% - Implementing the school wellness policy
- 29% - Partnering with outside organizations providing physical education or resources
- 22% - Teachers receiving professional development on physical education
- 20% - Summer programs which include physical education
- 13% - Family programs which include physical education
- Other:
 - requiring more than the minimum PE at the high school level
 - making PE mandatory instead of optional

Concerns were threaded throughout focusing on the fact that unless PE is part of the MEAP or a higher priority in the high school graduation requirements, it will never be fully integrated.

Some of the ways you think would work best in introducing or expanding physical education in your school includes:

- 58% - Family programs which include physical education
- 55% - Before or after school programs which include PE
- 45% - Summer programs which include physical education
- 42% - Implementing the school wellness policy
- 42% - Partnering with outside organizations providing PE/resources
- 39% - Teachers receiving professional development on PE
- 23% - A physical education curriculum
- 19% - Hiring of a physical education teachers
- Other:

Focus group comment:
I don't think we can ask the teachers to do more than what they are already doing... We want them (community organizations) to do more by coming into the building like Junior Achievement. ~principal

- change the PE curriculum to encompass lifelong activities rather than some of the silly games that are played
- integrate PE into classroom instruction
- provide PE materials free of charge because we don't have enough money to pay for them
- the government needs to require PE – it's the only way it'll become a priority

What barriers do you see to more fully integrating physical education into the schools in which you currently work?

- 69% - Time within the school day to cover physical education
- 58% - Lack of funding
- 35% - Lack of equipment
- 30% - Lack of instruction time
- 29% - Lack of space
- 22% - No one is really enforcing our school wellness policy
- 20% - It is not a priority at our school

- 20% - Lack of planning time/interest
- 13% - Lack of instructional materials
- 7% - No physical education teacher at our school
- 7% - More training is needed to teach physical education
- 3% - Lack of substitute teachers

Other:

- one gym is not enough space to have enough gym classes to meet student needs
- PE is not on the MEAP so it will never be a priority
- budget cuts to meet high school graduation requirements means PE gets cut in junior high
- teachers don't understand how PE can be integrated into the regular classroom

Nutrition Environment

Nutrition environment is defined as a school's environment and policies related to promoting and supporting healthy eating and the provision of access to healthy foods within the school setting.

How does your school support a healthy nutrition environment?

- 93% - Offer USDA school breakfast and lunch programs
- 84% - Provide low-fat or fat-free milk every day
- 71% - Meals include a variety of foods
- 64% - Students have at least 20 minutes to eat lunch after obtaining food
- 45% - Implementation of the school wellness policy
- 30% - Healthy foods at school parties
- 30% - Vending machines have healthy options
- 22% - Healthy foods at parent, teacher, and staff meetings
- 14% - Food/candy not given as a reward
- 13% - Fundraisers do not involve limited nutritional value foods
- 7% - Healthy foods at school concessions
- 3% - Connection with a farm for local fruits & vegetables

Other:

- using non-food rewards in the classroom
- hanging posters around the school
- fresh fruit is offered to students free of charge as an afternoon snack
- posting nutritional information on the menu board

Many of the actions the schools using the HSAT are taking are supported here...schools still have a long way to go in incorporating healthy vending machines, concessions, fundraisers, etc.

Some of the ways you think would work best in creating a healthier nutrition environment in your school includes:

- 59% - Food/candy not given as a reward
- 56% - Fundraisers do not involve limited nutritional value foods
- 52% - Healthy foods at school concessions
- 49% - Healthy foods at school parties
- 49% - Healthy foods at parent, teacher, and staff meetings

Focus group comment:
We've changed our snacks in the school store to granola bars, cheese and cracker snacks, fruit juice, and those types of things. Not extremely healthy, but better than candy bars or gum. ~principal

45% - Connection with a farm for local fruits and vegetables

42% - Meals include a variety of foods

39% - Implementation of the school wellness policy

38% - Students have at least 20 minutes to eat lunch after obtaining food

28% - Vending machines have healthy options

25% - Provide low-fat or fat-free milk every day

20% - Offer USDA school breakfast and lunch programs

Other:

- offer healthy foods at lower costs
- show nutritional information for all foods
- present nutritional foods in a better way
- school staff model good nutrition
- no candy fundraisers
- too many pre-packaged foods – cooks should make fresh foods

Focus group comment:
Our biggest champions are the students – some middle schools have been able to change lunch programs because students got involved and parents get involved if the kids are. One district allowed the middle school kids to paint the food guide pyramid on the cafeteria wall – students make the difference! ~Michigan Model Coordinator

What barriers do you see to creating a better nutrition environment in the schools in which you currently work?

48% - Lack of funding

38% - Lack of school community support

36% - It is not a priority at our school

36% - Lack of policies that are enforced

35% - No one is really enforcing our school wellness policy

32% - Our school does not understand the impact of the nutrition environment on food choices our students make

32% - Lack of planning time/interest

14% - Lack of administration support

Other:

- conflict over why eating healthy should be a priority
- not enough staff involvement
- cost and convenience are #1 concerns of food services
- families are not ready to make a change for the betterment of their kids
- cheaper to buy junk food in bulk
- fresh fruit is very limited through USDA
- pop is a huge revenue producer
- children of low socio-economic families tend to want to eat poor food choices because that's what they get at home

A major concern was lack of funding to purchase quality food, and since junk food is cheaper – that will continue to be purchased.

Physical Activity

Physical activity is defined as bodily movement of any type and may include recreational, fitness and sport activities as well as daily activities like walking to school. Physical activity should occur several times throughout the students' day.

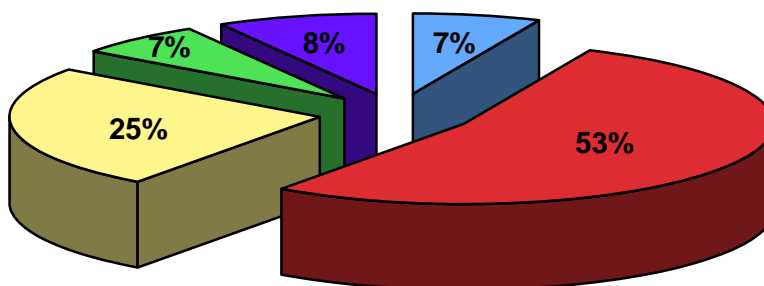
In your opinion, do the students in your school receive:

76% - Too little physical activity

24% - The right amount of physical activity

To your knowledge, the students in your school receive an average of how many minutes for physical activity each day including recess outside of lunch time?

Amount of Physical Activity



■ 0 minutes ■ 1-30 minutes ■ 31-60 minutes ■ 61-90 minutes ■ >90 minutes

Some of the ways you've seen physical activity integrated into your school includes:

- 61% - Students using pedometers on a regular basis
- 55% - Implementation of the school wellness policy
- 49% - Teachers incorporating physical activity as part of their health class
- 49% - Partnerships with outside organizations providing physical activity
- 48% - Students participating in physical activity before/after school
- 46% - Summer programs integrating physical activity
- 45% - Family programs integrating on physical activity
- 43% - Teachers providing Brain Breaks or "Take 10" at regular intervals for students
- 42% - Students participating in recess before lunch
- 40% - Promotion of physical activity such as posters and adult role modeling
- 39% - Student participation in a walking club

Other:

- programs targeting families with children ages 0-5 years
- health fair station activities
- Fun Fitness Club that includes snow shoeing, cross country skiing, roller blading
- Friday reward recess as incentive for students who complete their weekly assignments

There was not a lot of differentiation between these potential actions – respondents have seen evidence of all of these types of actions in their schools.

Some of the ways you think would work best in introducing or increasing physical activity in your school includes:

- 61% - Teachers providing Brain Breaks or “Take 10” at regular intervals for students
- 55% - Family programs integrating physical activity
- 49% - Teachers incorporating physical activity as part of their health class
- 49% - Students participating in physical activity before/after school
- 48% - Student participation in a walking club
- 46% - Partnerships with outside organizations providing physical activity
- 45% - Summer programs integrating physical activity
- 43% - School/community/club sponsored sports and activities
- 43% - Promotion of physical activity such as posters and adult role modeling
- 42% - Students participating in recess before lunch
- 41% - Implementation of the school wellness policy
- 39% - Students using pedometers on a regular basis

Other:

- have a full-time wellness coordinator
- intramural sports program
- PE teachers don’t have to take time from gym to teach health
- all kids walk one mile/day
- incorporate physical activity into the classroom
- promote biking/walking/skating to school

What barriers do you see to increasing the physical activity in the schools in which you currently work?

- 75% - Time within the school day to be physically active
- 52% - Amount of time available for recess
- 39% - Lack of funding
- 35% - Lack of instruction time
- 28% - Lack of equipment
- 25% - Lack of space
- 25% - Lack of planning time/interest in teaching
- 22% - It is not a priority at our school
- 22% - No one is really enforcing our school wellness policy
- 20% - Lack of support from students and/or parents
- 19% - Lack of ideas or materials (e.g., curriculum)
- 19% - Indoor recess
- 16% - Lack of school/community support
- 14% - Lack of administration support
- 12% - More training is needed to teach physical activity
- 1% - Lack of substitute teachers

Other:

- awareness of brain research that supports children becoming better learners if they are physically active
- loss of physical activity as punishment for not completing homework
- need to be able to use the gym only for physical activity
- too many requirements to make AYP & physical activity isn’t one of them

Focus group comment:
You need the principal, food service, superintendent, nurse, phys ed teachers, Michigan Model coordinator, and parent support groups all involved. ~MSUE educators

Next Steps

Based on the data that was collected with the K-8 low-income schools, the SNA team has decided to move forward and to develop and implement a school needs assessment for low-income high schools, grades 9-12, in the State of Michigan for the 2007-2008 fiscal year. With these two data sets collected it is hoped that the SNA team will then be able to develop a strategic plan to help educators and state agencies break the barriers into low-income schools and increase the nutrition education and physical activity levels of many more Michigan school children in the future.

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Data used in this report was compiled by Wendy L. Tackett, Ph.D.

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This project has been partially funded by USDA's Food Stamp Program by way of the Michigan Department of Human Services, the Family Nutrition Program at Michigan State University and the Michigan Department of Community Health. The Food Stamp Program can help provide a healthy diet and nutrition assistance to people with low income. To find out more, contact your local DHS office, check online at <http://www.mfia.state.mi.us/mars/index.asp> or call 1-800-481-4989 for the Food and Nutrition Helpline.